

**EOSDIS IV&V  
Monthly Status Report  
For the Period 2/1/97 to 2/28/97  
(Deliverable 0201D.6)**

**March 14, 1997**

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## **1. PERFORMANCE INFORMATION**

### **1.1 Contract Organization Chart**

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task during February is also indicated.

### **1.2 Programmatic Information**

#### **a) Key Recent Accomplishments**

- Met with Rick Obenschain and ESDIS Management on 2/11/97 to discuss the roles and responsibilities of each person supporting the EOSDIS IV&V contract.
- Developed transition plan to increase IV&V staffing at the Fairmont WV facility. Met with ESDIS Management and Financial personnel to negotiate terms and conditions on 2/26/97.
- Continued on-going training of contract personnel. Training in February included classes at the Goddard Learning Center on Windows NT, MS Quickstart, and Computer and Network Security. In addition, UNIX and UNIX Shell Scripts were studied through Computer Based Training (CBT).
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.

#### **b) Planned Activities**

- Finalize IV&V Transition Plan, including estimated expenditures and tracking metrics. Begin transition process, including interviews with potential new hires and the relocation of current personnel. Goal is to have a staffing level of not less than 12 Task 8 FTEs at the WV Facility by 9/15/97.
- Conceptually restructure Task 8 to support dual locations, and provide suggestions for additional IV&V activities that can be performed to aid ECS development, as requested by Ellen Herring, SMO Manager.
- Continue on-going training of contract personnel. Short term goals are to have Task 11 personnel receive training on the X-Runner tool, and to have the new hires under Task 8 receive training in both OMT and Rational ROSE.
- Continue supporting the NASA initiative on Performance Based Contracting (PBC).

**Exhibit 1-1: Org Chart (Landscape)**

*EOSDIS IV&V Monthly Status Report  
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Expected Date Due	Dependency	Milestone/Deliverable	Task #	Status*	Comments
2/3/97		EGS I&T Program Test Matrix (Updates)	11	C	Submitted on time.
2/11/97		January Monthly Metrics Report	8	C	Submitted on time.
2/11/97		RTM Quantitative Assessment TAM	8	C	Submitted on time.
2/11/97		CCR Impact Analysis Forms	8	C	Submitted on time.
2/14/97		Monthly Status Report	2	C	Submitted on time.
2/15/97		Science/System Confidence Test Packages (Review Versions)	11	C	Submitted on time.
2/17/97		EOSDIS Security Policy Guidelines (Update) - Draft	8	C	Submitted on time.
2/18/97		ICWG Open Interface Issues Summary Report	8	C	Submitted on time.
2/22/97		RTM Qualitative Assessment TAM	8	C	Submitted on time.
2/28/97		ASTER-to-EOSDIS Interface Evaluation TAM	8	C	Submitted on time.
2/28/97		February Monthly Metrics Report	8	C	Submitted on time.
2/28/97		Requirements Traceability Using BONEs and RTM Feasibility Analysis TAM	8	CX	The modeling activity under Task 8 has been descoped.
3/1/97		TRMM Operational System Test Approach White Paper	11	C	Submitted on time on 2/28/97.
3/11/97	One week prior to CCB or ICWG meeting	CCR Impact Analysis Forms	8	IP	
3/17/97		EOSDIS Security Policy Guidelines (Update) - Final	8	IP	
3/18/97	At monthly ICWG	ICWG Open Interface Issues Summary Report	8	IP	
3/31/97		Capacity Planning TAM	8	O	
3/97	RTM + 2 weeks and/or end of month	Monthly Metrics Reports	8	O	
3/97	RTM release + 2 weeks	RTM Quantitative Assessment TAM	8	O	
3/97	RTM release + 4 weeks	RTM Qualitative Assessment TAM	8	O	
3/97	Monthly	EGS I&T Program Test Matrix (Updates)	11	IP	

\* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

**EXHIBIT 1-2: Status of Milestones/Deliverables**

### **1.3 Technical Task Information**

#### **Task # 4: IV&V Infrastructure and Tool Development**

##### **a) Task Accomplishments**

- Released Test Management Database (TMDB) Version 4.0. Enhancements include cut/copy/paste functionality for test procedure tables and additional requirement allocation capabilities.
- Created new functional threads to support the TRMM Support Testing (TST) effort. Ported TMDB TRMM related threads, test cases, and steps to be prefixed with V1-TST.
- Enhanced Confidence Test Program (CTP) perl scripts to handle procedure steps with DOS hard returns imbedded in them.
- Added new low level CTP webpage for reviewing individual step results relative to the test case being viewed. Also prepared new CTP pages to display failed test cases.
- Created and populated tables in the ISE production database for visibility by the new Test Verification Database (TVDB). Ported links from RTM for RBR to Level 4 requirements.
- Updated the RTM-X-ISE transfer utility to transfer requirement interpretation text to Sybase for display in the TMDB.
- Performed Webpage maintenance including verification that all homepage links were still valid.

##### **b) Issues/Concerns**

- None.

##### **c) Subcontractor Performance**

- EWA performance has been very good. Specific activities included maintaining and operating the Test Management Database (TMDB).

##### **d) Planned Activities**

- Continue to reconfigure IV&V databases, homepages, and tools as necessary to support ECS Release B IV&V analysis and I&T activities.

- Release Test Verification Database (TVDB) Version 2.0, which will include additional reporting and metrics capabilities.
- Install additional copy of X-Runner on Sun SPARC20 to support EGS I&T.
- Install a new multipack disk to the WV Sun SPARCserver 1000.
- Continue support (refinement, development, and maintenance) for the ARDB, PITS, TVDB, and TMDB client/server tools.
- Continue maintenance and data entry for the EOSDIS IV&V and EGS I&T homepages.

### **Task # 7: Programmatic and Process Analysis**

#### **a) Task Accomplishments**

- Activities on this task are now suspended until further direction is received from ESDIS.

#### **b) Issues/Concerns**

- None.

#### **c) Subcontractor Performance**

- Not Applicable.

#### **d) Planned Activities**

- None.

### **Task # 8: Development Life Cycle Analysis**

#### **a) Task Accomplishments**

##### ***Planning and Rapid Analysis Team:***

- Conducted a quantitative analysis of the 1/25/97 RTM Repository. Prepared and delivered the Monthly Metrics Report/RTM Quantitative Analysis report (2/11/97) on ECS development activities in January.
- Prepared and delivered the Monthly Metrics Report on ECS development activities in February on 2/28/97.

- Assisted Hughes personnel in the data entry of CCRs into the RTM Repository.
- Obtained access to Hughes' Rational Rose and Analyzer tools, but not the design repositories.
- Coordinated inputs from Task 8 members on future task activities. Identified the steps required to define the minimum analysis processes, described implementation and compliance activities, and suggested ongoing engineering activities that could be performed. Also provided a schedule as well as resource estimates by phase and activity.
- Participated in DSS Tiger Team and supported review of DSS design and development.

***System and Interfaces Analysis Team:***

- Completed analyses of CCRs for the ECS-GSFC/LaRC DAAC ICD, EDOS-NOAA ICD, ECS-SCF ICD, and ECS-V0 IRD. Also completed review of CCR 505-41-32-004, "B/L Landsat 7 IGS ICD;" and CCR 505-01-35-068, "EDOS EBNet IRD Clean Up."
- Responded to two action items from Ellen Herring — one asking for a list of Release B requirements issues, and the other asking for possible approaches to help the ECS development effort.
- Analyzed the EOSDIS-ASTER GDS interface, and documented findings in TAM submitted on 2/28/97.
- Completed qualitative analysis of the 1/25/97 RTM baseline and submitted TAM on 2/22/97.
- Input revised issue status information into the PITS-ICWG repository. Prepared summary reports and metrics for the following deliverables:
  - 2/11 Monthly Metrics Report (January)
  - 2/18 PITS-ICWG Summary Report
  - 2/28 Monthly Metrics Report (February)
- Drafted a Technical Issue Memorandum (TIM) to document concern about scope of recent changes to ICDs.
- Reviewed CSMS system documents including IRD for Aster, SDPS/CSMS Design Overview Specification for the ECS Project, CSMS subsystem CSS, CSMS Design Specifications for ECS, RTM for CSMS L4 Design and Test Reports, CSMS Release A Test Procedure, ASTER RBRs to L4s CSMS Design Trace Report, and ASTER from L4s down to the Objects level.

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- Analyzed all ECS ICDs concerning DAN data transfer protocol based on Landsat 7 ICD problem. Reported results to Dan DeVito and Candace Carlisle.

***System Modeling Analysis Team:***

- Provided input to ECS capacity planning outline. IV&V concerns are that the modeling activity focuses on model building, rather than determining a set of questions that need to be answered by the modeling effort.
- Installed BONEs Project Editor and began testing its use on ECS models, as well as an EGS I&T model in support of Task 11. Also, developed a prototype simulation for testing components of the larger EGS I&T model.
- Worked with Fairmont to divide the Modeling and Simulation homepage into "restricted" and "unrestricted" zones. This action allows ECS IV&V documents to be made available only to those users who have access to the PITS database.
- Continued to attend EDOS and ECS biweekly modeling meetings.

***System Security Analysis Team:***

- Delivered draft version of the EOSDIS Security Policy and Guidelines document on 2/18/97, as scheduled.
- Received comments from COTR and CSC on draft document. Currently incorporating comments and working on final version of Policy and Guidelines for March delivery.
- Met with Task 11 personnel to discuss the advantages of using the SafeSuite tool for EGS-7 testing.

***Test Analysis and Witnessing Team:***

- Created requirements to design to test traceability reports from January RTM data for ESDIS use.
- Analyzed test cases for critical capabilities required for the Pre-Release B testbed.
- Began review of the Release B Integration and Test procedures.

on the activities NASA wants us to perform. A new task assignment is currently being developed and iterated with the new ESDIS Project Manager.

- Lack of access to the current ECS Release B design continues to constrain the level of design analysis achievable by IV&V. We are unaware of any documented ECS developer plans and/or schedules to reverse-engineer Release B designs using Rational Rose.
- IV&V test analysis and test witnessing activities are constrained by the lack of definitive ECS system verification plans, procedures, schedules, and RTM traceability data for Release B.
- Task 11 (EGS I&T) is currently lacking a security expert. Such a person would enhance the efforts of the EGS-7 Security Test Team and would ensure the correct/optimal use of security-related test tools such as the proposed SafeSuite tool.

**c) Subcontractor Performance**

- CTA is leading the SIA Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.
- SES is leading the TAW Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.

**d) Planned Activities**

***General:***

- Support transition of IV&V responsibilities to West Virginia.
- Provide additional inputs for revising the Task 8 SOW.
- Attend ECS Monthly Progress reviews to gain insight into planning, schedule, progress, and issue aspects of ECS development.
- Work to resolve outstanding Technical Issue Memoranda (TIMs).

***Planning and Rapid Analysis Team:***

- Analyze requirement mappings to Release B design and test cases, if available in the next RTM.
- Analyze March release of RTM and prepare the Monthly Metrics/RTM Quantitative Analysis Report to be delivered the end of March.

- Identify initial IV&V analysis support activities using Rational Rose.
- Help define IV&V's role on ESDIS Tiger Teams and provide support as needed.

***System and Interfaces Analysis Team:***

- Support ongoing review of CCRs.
- Continue data entry into PITS ICWG repository, and present findings at next ICWG status meeting scheduled for 3/18/97.
- Begin requirements qualitative analysis based on March release of RTM.
- Begin new IV&V work, as agreed between ESDIS and IV&V management, including additional external interface analyses.

***System Modeling Analysis Team:***

- Attend ECS and EDOS biweekly meetings.
- Attend CSC's weekly modeling meetings to discuss the modeling of ECS and EDOS.

***System Security Analysis Team:***

- Deliver Final Version of the EOSDIS Security Policy and Guidelines on 3/17/97.
- Work with Task 11 personnel to explore a possible role for security under that Task. Determine whether or not Task 11 will fund the SafeSuite tool to support EGS-7 testing activities.
- Participate in EOSDIS Security Working Group (ESWG) meetings.
- Review security-related test case procedures for ECS Release B I&T if and when the test witnessing activity is reactivated.
- Continue working to resolve security issues identified in the Project Issue Tracking System (PITS).

***Test Analysis and Witnessing Team:***

- Analyze redlined Release B.0 test procedures and provide ECS test verification team and ESDIS with analysis/comments prior to demos, if possible.
- Plan and schedule Release B test witnessing activities as ECS test verification plans and schedules become available.
- Perform Release B test witnessing activities as demonstrations are scheduled. Attend test coordination and test verification status meetings, witness tests, and provide comments to both the ECS test verification team and ESDIS.

**Task # 11: EOS Ground System Integration and Test**

**a) Task Accomplishments**

***EGS Version 1 Test Planning:***

- Attended Landsat 7 MRTT, revised Landsat 7 EGS I&T test plan, and supported contingency planning.
- Delivered TRMM Operational System Test Approach White Paper as planned on 2/28/97. Supporting activities included:
  - Revising EGS Version 1 TRMM Science Data Processing test plan
  - Initiating TRMM Mission (TSS) test planning IPT, and working with NYMA/GSFC DAAC to coordinate/streamline test activities
  - Supporting ESDIS EGS I&T TRMM Mission Manager

- Imported and reviewed EDOS Requirements baseline.

***EGS Version 1 Integration and Test:***

- Completed formal FSO IPT Version 1 Confidence Test Package execution ahead of schedule, on 2/11/97.
- Supported EGS ERB, FOS DRB, ETS DRB, EDOS with Discrepancy Reports (DRs).

**b) Issues/Concerns**

- We need to continue developing relationships with our joint test partners. This is especially important when trying to schedule resources.

**c) Subcontractor Performance**

- Subcontractor performance has been very good.

**d) Planned Activities**

- Work on EGS Version 1 Test Report - Flight System.
- Continue to plan EGS I&T Science/Systems IPT test package targets, working with System Readiness redirection and Science IPT.
- Continue to plan EGS I&T test data plan target dates, working with EGS I&T Test Data Coordinator.
- Continue to work TRMM TSS EGS I&T test packages, coordinating with other organizations as appropriate.
- Continue Landsat 7, AM-1, and Sage III mission joint test planning activities.
- Complete monthly metrics, matrix update, and ongoing task support activities.

## **2. FINANCIAL/CONTRACTUAL INFORMATION**

**This Section  
Has Been Removed  
Due to Proprietary Content.**